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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,517	01/18/2002	Andrea Manganini	Q68141	7765

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EXAMINER	
NGUYEN, HAO X	

ART UNIT	PAPER NUMBER
2668	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/050,517	MANGANINI ET AL.	
	Examiner	Art Unit	
	Hao X. Nguyen	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *18 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 14 and 15 are objected to because of the following informalities: "any of claims 1 to 4 or 5 to 9" should be rewritten as "any of claims 1 to 9". Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention is directed to non-statutory subject matter. "A signal frame structure" of claim 10 is not a statutory subject matter and claim 10 just describes the structure of data.

The claimed invention is directed to non-statutory subject matter. "A computer program per se" of claim 14 is not a statutory subject matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102 (e) as being anticipated by Swinkels et al. (US Pat. No. 6,795,394 B1), hereafter Swinkels.

In regards to claim 1,

Referring to Figure 3, Swinkels discloses a method that manages different types of events in a ring network protected by a traffic protection mechanism (column 1, line 26; column 2, lines 32-42; claim 1 – a method for managing

situations of multiple events of different types in a telecommunication network with a ring topology protected by a traffic protection mechanism).

Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead (column 7, lines 10-17; claim 1 – signals arranged as frames of bytes are transmitted and the transmitted frames comprise a pair of event signalling bytes).

Referring to Figure 7, Swinkels discloses a span fail message that is sent to all nodes on a ring when a signal fail is detected and a span switch needs to be done subsequently (column 7, lines 55-56; claim 1- the first pair of event signalling bytes being used for signalling events of a first type).

Referring to Figure 8, Swinkels discloses a message that is sent to indicate a trigger of an extra traffic protection (ring switch). Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. This means other APS (Automatic Protection Switch) bytes besides K1 and K2 could be used for signalling of other events. Also, the signalling protocols for above span switch and ring switch cannot be combined to protect extra traffic. So, a pair of signalling bytes used to indicate a ring switch is different from those indicating a span switch (column 8, lines 6-20; column 7, lines 48-51; claim 1 - at least one additional pair of event signalling bytes being used for signalling events of a second type).

In regards to claim 5,

Referring to Figure 3, Swinkels discloses a method that manages different types of events in a ring network protected by a traffic protection mechanism (column 1, line 26; column 2, lines 32-42; claim 5 – a method for managing situations of multiple events of different types in a telecommunication network with a ring topology protected by a traffic protection mechanism).

The signals are passed to each node using overhead bits in SONET/SDH frames (column 8, lines 14-15; claim 5 - frame arranged signals traveling through said network).

Referring to Figure 3, Swinkels discloses a network that has fiber spans connecting network nodes to form a ring (column 2, lines 31-33; column 9, line 7; claim 5 – said network comprising: nodes or network elements; and fiber spans connecting the network elements to form a ring).

Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. Referring to Figure 7, Swinkels discloses a span fail message that is sent to all nodes on a ring when a signal fail is detected (column 8, lines 14-15; column 7, lines 55-56; claim 5 - the method comprising the step, carried out by the nodes, of receiving signal frames comprising first event signalling bytes).

Referring to Figure 8, Swinkels discloses a message that is sent to indicate a trigger of an extra traffic protection (ring switch). Messages are passed

to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. This means other APS (Automatic Protection Switch) bytes besides K1 and K2 could be used for signalling of other events. Also, the signalling protocols for above span switch and ring switch cannot be combined to protect extra traffic. So, a pair of signalling bytes used to indicate a ring switch is different from those indicating a span switch (column 8, lines 6-20; column 7, lines 48-51; claim 5 - at least one additional pair of event signalling bytes being used for signalling events of a second type).

In regards to claim 10,

Swinkels discloses messages that are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. Referring to Figure 7, Swinkels discloses a span fail message that is sent to all nodes on a ring when a signal fail is detected and a span switch needs to be done subsequently (column 8, lines 14-15; column 7, lines 55-56; claim 10 – a signal frame structure for telecommunications comprising a first pair of bytes used for signalling events of a first type only).

Referring to Figure 8, Swinkels discloses a message that is sent to indicate a trigger of an extra traffic protection (ring switch). Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. This

means other APS (Automatic Protection Switch) bytes besides K1 and K2 could be used for signalling of other events. Also, the signalling protocols for above span switch and ring switch cannot be combined to protect extra traffic. So, a pair of signalling bytes used to indicate a ring switch is different from those indicating a span switch (column 8, lines 6-20; column 7, lines 48-51; claim 10 - one additional pair of bytes being used for signalling events of a second type only).

In regards to claims 2, 6, and 11,

Referring to Figure 7, Swinkels discloses a type of signalling that is a span fail message to be sent to all nodes on a ring (column 7, lines 55-56; claims 2, 6, and 11 - the first type of events comprises span-type events only).

Referring to Figure 8, Swinkels discloses another type of signalling that is a trigger of a ring switch on a protection ring to be sent to another node (column 8, lines 6-20; claims 2, 6, and 11 - the second type of events comprises ring events only).

In regards to claims 3, 7, and 12,

Referring to Figure 8, Swinkels discloses a type of signalling that is a trigger of a ring switch on a protection ring to be sent to another node (column 8, lines 6-20; 3, 7, and 12 - the first type of events comprises ring events only).

Referring to Figure 7, Swinkels discloses another type of signalling that is a span fail message to be sent to all nodes on a ring (column 7, lines 55-56; 3, 7, and 12- the second type of events comprises span-type events only).

In regards to claim 4,

Referring to Figure 3, Swinkels discloses an optical ring network that has spans made up of four fiber channels. The fibers comprise working channels and protection channels (column 5, lines 48-67; column 6, lines 1-5; column 9, lines 28-30; claim 4 - telecommunications network is a transoceanic optical network comprising nodes connected through fiber spans having at least four fibers comprising working channels and protection channels).

In regards to claim 8,

Referring to Figure 7, Swinkels discloses a type of signalling that is a span fail message to be sent to all nodes on a ring. In response, network element NE3 sends an acknowledge and bridge command (column 7, lines 55-67; claim 8 - processing the information carried by the first pair of event signalling bytes).

Referring to Figure 8, Swinkels discloses another type of signalling that is a trigger of an extra traffic protection to reduce the amount of extra traffic loss during the protection switch (column 8, lines 6-28; claim 8 – at least one additional pair of event signalling bytes to perform operations designed, in case of multiple events of different type, to save as much traffic as possible).

In regards to claim 9,

Swinkels discloses nodes that are arranged to carry out a span switch operation to replace a high priority path by a lower priority path. The nodes are further arranged to carry out a ring switch to send at least some of lower priority traffic around a ring of lower priority paths, and avoid those of the lower priority

paths used by the span switch operation (column 4, lines 25-39; claim 9 - the step of performing operations based on priority criteria between span and ring).

Swinkels also discloses a priority scheme that is used to determine which of the working paths is protected if the protection paths are shared between many working paths (column 3, lines 52-57; claim 9 - and the step of evaluating whether operations on the paths dictated by the less-priority request are feasible).

In regards to claim 13,

Referring to Figure 3, Swinkels discloses a network node that is included in a ring network protected by a traffic protection mechanism (column 1, line 26; column 2, lines 32-42; claim 13 – a network element for a telecommunications network with a ring topology protected by a traffic protection mechanism).

The signals are passed to each node using overhead bits in SONET/SDH frames (column 8, lines 14-15; claim 13 - signals arranged as frames traveling through said network).

Referring to Figure 3, Swinkels discloses a network that has fiber spans connecting network nodes to form a ring (column 2, lines 31-33; column 9, line 7; claim 13 – said network comprising: nodes or network elements; and fiber spans connecting the network elements to form a ring).

Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. Referring to Figure 7, Swinkels discloses a span fail

message that is sent to all nodes on a ring when a signal fail is detected (column 8, lines 14-15; column 7, lines 55-56; claim 13 - the node element comprising the means for receiving signal frames comprising first event signalling bytes, the first pair of event signalling bytes being used for signalling events of a first type).

Referring to Figure 8, Swinkels discloses a message that is sent to indicate a trigger of an extra traffic protection (ring switch). Messages are passed to each node using overhead bits in SONET/SDH frames, such as the K1 and K2 bytes (also known as APS bytes) of a SDH multiplex section overhead. This means other APS (Automatic Protection Switch) bytes besides K1 and K2 could be used for signalling of other events. Also, the signalling protocols for above span switch and ring switch cannot be combined to protect extra traffic. So, a pair of signalling bytes used to indicate a ring switch is different from those indicating a span switch (column 8, lines 6-20; column 7, lines 48-51; claim 13 - at least one additional pair of event signalling bytes being used for signalling events of a second type).

In regards to claim 14,

Swinkels discloses software that is used for carrying out the span switch operation and the ring switch operation. This software is run on a switch control of a node (Figure 6; column 7, lines 10-43; column 11, lines 6-12; claim 14 - a computer program comprising computer program code means adapted to perform all steps of the method according to any of claims 1 to 4 or 5 to 9 when said program is run on a computer).

In regards to claim 15,

Referring to Figure 5, Swinkels discloses a switch controller that runs software for carrying out the span switch operation and the ring switch operation. Inherently, this switch control is a computer that has a memory to store this software (column 7, lines 10-43; claim 15 – a computer readable medium having a program computer readable medium comprising computer program code means adapted to perform all steps of the method according to any of claims 1 to 4 or 5 to 9 when said program is run on a computer).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chapman (US Pat. No. 5,974,027) discloses Telecommunications Network Including A Channel Switching Protection Arrangement.

Flanagan et al. (US Pat. No. 5,159,595) discloses Ring Transmission System.

De Boer et al. (US Pat. No. 6,658,013 B1) discloses Method And Apparatus For Ensuring Survivability Of Inter-ringTraffic.

Langridge et al. (US Pat. No. 6,683,849 B1) discloses Optical Communications Network.

Wuttisittikulkij, L.; Leelanunnukul, S.; Arreewanit, S.; Prapinmongkolkarn, P.; (Communications, 1999. ICC '99. 1999 IEEE International Conference on

Volume 3, 6-10 June 1999 Page(s): 2018 - 2022 vol.3) discloses Routing and wavelength allocation in multi-wavelength all-optical ring networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hao X. Nguyen whose telephone number is 571-272-8195. The examiner can normally be reached on.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hao X. Nguyen
Examiner
Art Unit 2662

CHIEH M. FAN
PRIMARY EXAMINER